

What is claimed is:

1. A method for determining the ignition angle for an internal combustion engine whereby a base ignition angle (1) is determined based on the instantaneous engine speed and load, and as part of a downstream knock control (3), a first ignition angle adjustment (2) is determined in the retard direction when knocking has been detected, wherein a second ignition angle adjustment (5) is determined as part of a knock limit control (4) when at least one manipulated variable influencing the knock limit changes, the type of the second ignition angle adjustment (5), i.e., advancing or retarding, depending on the manipulated variable and its change.

2. The method as recited in Claim 1, wherein the knock limit control (4) is carried out for all cylinders in the internal combustion engine at the same time and in the same manner.

3. The method as recited in one of Claims 1 or 2, wherein the knock limit control (4) is triggered by a change in the exhaust gas recirculation rate.

4. The method as recited in one of Claims 1 through 3, wherein the knock limit control (4) is triggered by an adjustment in the camshaft.

5. The method as recited in one of Claims 1 through 4, wherein the knock limit control (4) is triggered by the opening or closing of the charge motion control valve.

6. The method as recited in one of Claims 1 through 5, wherein the knock limit control (4) is triggered by a modification of the valve train.

7. The method as recited in one of Claims 1 through 6, wherein the knock limit control (4) is triggered by a change in the engine temperature, or by a change in the coolant temperature and/or the coolant flow rate.

8. The method as recited in one of Claims 1 through 7, the manipulated variable being changed in such a way that the knock limit control (4) advances the base ignition angle (1), wherein the knock control (3) remains active, and the knock limit control (4) advances the base ignition angle (1) only until the knock control (3) has detected a knock.

9. The method as recited in one of Claims 1 through 7, the manipulated variable being changed in such a way that the knock limit control (4) retards the base ignition angle (1), wherein the knock limit control (4) retards the base ignition angle (1) for each knock detected, and the ignition angle is not changed either by the knock control (3) or by a stationary adaptation during the knock limit control (4).

10. The method as recited in Claim 9, wherein the knock detection limit is lowered.

11. The method as recited in Claim 8, wherein an advance is determined in the knock limit control (4) when the exhaust gas recirculation rate increases and/or when the engine temperature decreases.

12. The method as recited in one of Claims 9 or 10, wherein a retardation is determined in the knock limit control (4) when the exhaust gas recirculation rate decreases and/or when the engine temperature increases.

13. A method for adjusting the ignition angle after a torque intervention, in which the ignition angle has been determined based on the torque structure of the engine and the knock limit control (4) has been interrupted, at least one manipulated variable influencing the knock limit having changed during the torque intervention, as recited in one of Claims 1 through 12, wherein a value for the second ignition angle adjustment (19) is read out from a characteristic map (10) in which values for the second ignition angle adjustment are stored as a function of the engine speed (13), the load (14), and the modified manipulated variable (11).

14. The method as recited in Claim 13, wherein the values in the characteristic map have been adaptively determined during normal operation of the knock limit control (4).